

Appl. No: 10/822,573
Amdt. dated: June 15, 2005
Reply to Office Action of: March 15, 2005

REMARKS

Applicants respectfully submit that the amendments add no new matter and are fully supported by the application as originally filed.

Rejections under 35 U.S.C. §112

The Examiner has rejected Claim 35 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

Applicants have amended Claim 35 to delete the terms "such as water bottles" and "various," as advised by the Examiner. Accordingly, Applicants submit that the rejection for indefiniteness is overcome.

Rejections under 35 U.S.C. §103(a)

The Examiner has rejected Claims 1-35 under 35 U.S.C. §103(a) as being unpatentable over Kuennen et al. (U.S. Patent No. 6,368,504).

Applicants' amended independent Claim 1 recites a water treatment device, comprising filtration media containing a volume of grains having a multiply modal grain size distribution that has at least a first mode and a second mode, wherein between about 1 and 15 vol % of the grains have a grain size in a range between a first grain size and a second grain size, a first portion of the grains, including the first mode, has grain sizes smaller than the first grain size, and a second portion of the grains, including the second mode, has grain sizes larger than the second grain size.

Applicants' amended independent Claim 23 recites a system for treating water, comprising, among other (unamended) elements, a filter component within the housing, the filter component comprising filtration media containing a volume of grains having a multiply modal grain size distribution that has at least a first mode and a second mode, wherein between about 1 and 15 vol % of the grains have a grain size in a range between a first grain size and a second grain size, a first portion of the grains, including the first mode, has grain sizes smaller than the first grain size, and a second portion of the grains, including the second mode, has grain sizes larger than the second grain size, the filter component capable of having fluid communication with the source water.

The Examiner asserts that Kuennen disclosed a water treatment system comprising filtration media having a plurality of portions, each portion having particles with a different

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grain size. The Examiner further asserts that Kuennen disclosed a particle size distribution wherein 25% or more of the particles have a grain size larger than 106 μm (a second grain size), 25% or more of the particles have a grain size smaller than 25 μm (a first grain size), and the remaining particles have a grain size therebetween. The particle size distributions in Figures 2, 3, and 7 of Kuennen indicate between about 53% and 89% for the portion of the particles with a grain size between 25 and 106 μm . Kuennen provided no teaching or suggestion for a portion containing intermediately sized particles that constitute between 1 and 15 vol% of the particles in the filtration media or for a multiply modal grain size distribution, as recited by independent Claim 1.

Applicants' independent Claim 14 recites a water treatment device, comprising active filtration media containing a volume of grains wherein a first portion of the grains has grain sizes between about 100 and 200 μm , and makes up between about 10 and 50 vol % of the volume, a second portion of the grains has grain sizes between about 1 and 70 μm , and makes up between about 10 and 50 vol % of the volume, and a third portion of the grains has grain sizes between the largest of the first portion and the smallest of the second portion and makes up between about 1 and 15 vol % of the volume.

The Examiner has not addressed the particulars of Claim 14, which recites a third grain portion with a grain size range between about 70 and 100 μm (or more) and which makes up between about 1 and 15 vol % of the volume. Kuennen described particle size distributions by mesh size. Particles with a mesh size of 140 x 200 have sizes in the range of about 75-106 μm , corresponding roughly to the minimum size range for the third grain portion recited in instant Claim 14. In Figures 2, 3, and 7, Kuennen indicated from about 21% to 34% for the portion of particles in the 140 x 200 bar. Clearly, Kuennen did not teach or suggest 1 to 15 vol% for the third portion of grains as recited in Claim 14.

The Examiner asserts that it would have been obvious to one of ordinary skill in the art to employ filtration material having the recited particle size distribution in the system of Kuennen. Yet Kuennen taught only single mode grain size distributions. Kuennen's Figures 2, 3, and 7, which illustrate both the prior art and various embodiments of his invention, all show particle size distributions that have only one mode. Kuennen neither taught nor suggested using grain size distributions having more than one mode. Applicants assert that it would not have been obvious to one of ordinary

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skill in the art to employ filtration material having a particle size distribution with more than one mode. As stated succinctly by the Federal Circuit, "the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed." In re Rouffet, 47 U.S.P.Q.2d 1453, 1458, * F.3d *, * (Fed. Cir. 1998).

Accordingly, because the skilled artisan would not have been motivated to employ the teachings of Kuennen to produce a grain size distribution with more than one mode as recited in amended independent Claims 1 and 23, or with 1 to 15 vol% for the third portion of grains with a size range at least between 70 and 100 μm as recited in Claim 14, Applicants respectfully submit that Claim 14 and amended Claims 1 and 23 are allowable over the art of record.

Applicants have not addressed the further rejections of dependent claims as being moot in view of the amendments and remarks herein. However, Applicants expressly do not acquiesce in the Examiner's findings not addressed herein. Indeed, Applicants submit that the dependent claims recite further distinguishing and non-obvious features of particular utility.

The Examiner has asserted that Pall (U.S. Patent No. 3,327,859), Barrett et al. (U.S. Patent No. 3,420,709), and Stanley (U.S. Patent No. 4,851,122) disclose liquid purification systems employing mixtures of diverse particulate materials. Applicants respectfully submit that more information is needed about the relevance of these references to patentability of the instant application before they can address any rejections based on these references.

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CONCLUSIONS

In view of the foregoing amendments and remarks, Applicants submit that the application is in condition for allowance. If, however, some issue remains which the Examiner feels may be addressed by Examiner's amendment, the Examiner is cordially invited to call the undersigned for authorization.

Please charge any additional fees, including fees for additional extensions of time, or credit overpayment to Deposit Account No. 03 2270.

Respectfully submitted,
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